



# Department of Development Services

## Building Division

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Phil Rosenquist, Director • Ronald L. Lynn, Building Official

**SUBJECT: TG-12H-05 (Rev. No. 2) - MANUFACTURED ENGINEERED METAL PLATE CONNECTED WOOD TRUSS SUBMITTAL AND REVIEW REQUIREMENTS FOR HOMEOWNER-PERMITTEE STRUCTURES**

**1.0 PURPOSE:** This guideline sets forth submittal procedures and standards for homeowner-permittees and fabricators/manufacturers of engineered metal plate connected wood trusses.

**2.0 SCOPE:** To establish responsibilities for submission, review, and approval of metal plate connected wood truss design drawings and truss placement plans. All fabricators / manufacturers of metal plate connected wood trusses shall be approved in accordance with the latest version of the CCDDS-BD's technical guideline TG-11.

**3.0 ABBREVIATIONS & ACRONYMS:**

**ANSI:** American National Standards Institute, Inc.

**CCDDS-BD:** Clark County Department of Development Services-Building Division

**IBC:** International Building Code

**IRC:** International Residential Code

**NAC:** Nevada Administrative Code

**NRS:** Nevada Revised Statutes

**TG:** Technical Guideline

**TPI:** Truss Plate Institute, Inc.

**WTCA:** Wood Truss Council of America

**EFFECTIVE DATE: January 31, 2005**

**APPROVAL DATE: January 24, 2005**

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**4.0 DEFINITIONS:** The definitions below are specific to this document and are supplemental to those contained in the Building Administrative Code of Clark County.

**Approved Fabricator/Manufacturer:** (Defined in the Administration Code)

**Construction Design Documents:** (Defined in the Administration Code)

**Contractor/Subcontractor:** The individual, company, or corporation responsible for the field storage, handling, and installation of engineered wood products, including, but not limited to, temporary bracing, permanent bracing, anchorage, connections, and field assembly.

**Homeowner-Permittee:** A bona fide owner whose intent is to occupy the dwelling, accessory building and quarters in connection with such single family dwelling, who shall obtain a permit for such construction or work, and is not required to comply with the provisions of Nevada Revised Statutes, Chapter 624.

**Record Documents:** Documents that are representative of a structure's construction and are legally binding.

**Truss:** An individual metal plate connected wood structural component.

**Truss Calculation Package:** Consists of the truss manufacturer's placement plans, and a Nevada registered engineer's wet sealed design drawings.

**Truss Designer:** An individual who is registered or licensed by the State of Nevada pursuant to NRS Chapters 625 or NAC Chapter 625, and has the responsibility for the development of specifications, designs, and drawings of metal plate connected wood trusses.

**Truss Design Drawing:** Sealed document that includes the following information:

1. Project Name;
2. Structure identification (i.e. Plan number, including elevation options);
3. Truss fabricator;
4. Metal plate manufacturer (ICC-ES approvals);
5. Truss identification number referenced to the manufacturer's truss layout sheet;
6. A graphic depiction of the truss showing the exact span, shape, and web configuration;
7. Lumber specifications including species, grade, and size of chords and webs;
8. Metal plate size, gauge, and orientation at each joint (where applicable), including the dimensioned location of each metal connector plate (except where symmetrically located relative to the joint interface). Also include metal plate adjustment factors;
9. All design loads for top chord, bottom chord, and web, including combined stress rating, duration factor, and a **10 lb bottom chord live load check**;
10. Forces in each member with a designation showing whether forces are in tension or compression;
11. Minimum bearing area or length required at all bearing locations;
12. Connection requirements for truss to truss girder; truss ply to ply, and field splices;
13. Truss support hardware (where applicable), include species and nail penetration reductions where applicable;
14. Calculated deflection ratio and/or maximum deflection for live and total load;
15. Governing Code & Year used for the truss design; and
16. Nevada engineer's professional seal.

**Truss Placement Plan:** Manufacturer's drawing identifying the following information:

1. Project name;
2. Structure identification (i.e. Plan number, including elevations options);
3. Fabricator;
4. Date of layout drawing;
5. Location and spacing of all trusses;
6. Each truss type with a separate designation referenced to the truss design drawings for different shapes, spans, or loading conditions;
7. All bearing points;
8. Any concentrated loads (i.e. shear wall uplift or downward point loads, mechanical piping/equipment loads), drag loads, or lateral load transfers per the construction documents (connections for these loads are by others);
9. Attachment for truss to truss, hip truss connections, and girder to girder connections shall be specified on the truss design drawing, and placement plan;
10. All bearing enhancer hardware shall be specified on the truss design drawing, and placement plan;
11. Engineers seal is not required on the truss placement plan (erection drawing), unless the placement plan acts as the framing plan.

## **5.0 REFERENCES:**

ANSI/TPI 1-2002, National Design Standard for Metal Plate Connected Wood Truss Construction

Building Administrative Code of Clark County (BAC) 2004

International Residential Code (IRC) 2000

International Building Code (IBC) 2000

Southern Nevada Amendments to the 2000 IBC

Southern Nevada Amendments to the 2000 IRC

TG - 11 Approval Process for Engineered Wood Products

Wood Truss Council of America (WTCA) 4-2002

## **6.0 RESPONSIBILITIES:**

### **6.1 Clark County Department of Development Services-Building Division**

- 6.1.1** Plans Examination shall review the truss design drawings and the manufacturer's placement plans for conformance with the IRC or IBC and the construction design documents.
- 6.1.2** Inspection Services shall verify installation in accordance with the approved construction design documents and established procedures.

### **6.2 Homeowner-Permittee Responsibilities:**

- 6.2.1** Deliver the truss design drawings and the manufacturer's placement plans to CCDDS-BD for review.

**6.2.2** The homeowner-permittee shall specify on the Construction Documents any hardware for attachments of truss components to the structure.

**6.2.3** Deliver a copy of the jurisdiction's approved truss design drawings and the manufacturer's placement plans to the truss manufacturer prior to fabrication.

**6.2.4** Purchase engineered wood products from an approved fabricator.

**6.3 Truss Designer Responsibilities:**

**6.3.1** Receive from the truss manufacturer the necessary construction documents and all revisions and supplements thereto needed for the work to be completed in a proper and professional manner.

**6.3.2** Design the wood trusses in accordance with the ANSI/TPI 1-2002 Standard, or other design standards/methodology subject to building official approval.

**6.3.3** Prepare sealed truss design drawings that provide at a minimum the requirements stated in this document, and where applicable the design information as specified in ANSI/TPI-1-2002 "National Design Standard for Metal Plate Connected Wood Truss Construction" Section 2.1.

**6.4 Approved Truss Fabricator/Manufacturer Responsibilities:**

**6.4.1** Prepare truss placement plans that provide at a minimum the requirements stated in this document.

**6.4.2** Provide the truss designer the necessary construction design documents and all revisions and supplements thereto needed for their work to be completed in a proper and professional manner.

**6.4.3** Manufacture the trusses in accordance with the final approved truss design drawings using the quality criteria for Metal Plate Connected Wood Trusses established by the IRC, Chapter 5, Section 502.11 and IRC, Chapter 8, Section 802.10.

**6.4.4** The trusses shall be marked as specified in ANSI/TPI-1-2002 "National Design Standard for Metal Plate Connected Wood Truss Construction" Section 2.4. In addition, each truss shall be clearly marked or labeled with an identification number corresponding to the truss placement plan numbers.

**7.0 PROCEDURE:**

**7.1 General:** Procedures shall comply with the following:

**7.1.1** Three truss calculation packages shall be submitted to CCDDS-BD as part of the required documentation for permit application. The packages can consist of one set of wet sealed truss design drawings, and two copied sets. The copied sets will consist of copies of the sealed and signed truss design drawings and a cover letter with an original wet seal and signature.

**7.1.2** The permittee shall provide copies of the final approved truss design drawings and the manufacturer's truss placement plans to the truss manufacturer prior to fabrication.

**7.1.3** The permittee shall maintain at the site a CCDDS-BD approved truss calculation package including approved repairs, revisions, supplements, and addendums.

**7.2** **Repairs:**

**7.2.1** Two sets of wet sealed truss repair drawings shall be submitted to CCDDS-BD Inspection Services for review. Each set shall have the job name, address, permit number, contractor's contact person and phone number listed on the cover page. The truss repair drawing must contain a statement of the damage or problem that occurred and the engineered solution. CCDDS-BD approved truss repair documentation shall be maintained at the site with the other permit documents.

**7.3** **Revisions, Supplements, And Addendum:**

**7.3.1** When significant design changes occur after the initial CCDDS-BD's review is completed, the truss revisions, supplements, and addendums to the CCDDS-BD's approved truss calculation package shall be submitted to CCDDS-BD's plan examination for review. A significant change is defined as a truss modification that alters the original truss configuration, design requirements, or layout. Truss repairs are not to be considered as a "significant" design change.

**8.0** **RECORDS:**

**8.1** The truss calculation package, revisions, and repairs are CCDDS-BD record documents.

**9.0** **ATTACHMENTS:** none

**10.0** **REVISION HISTORY:**

Title	Revision /Approved Date	Effective Date
TG-12H-05	January 24, 2005	January 31, 2005
TG-12H-02	December 23, 2002	July 1, 2002
TG-12H-00	July 1, 2000	July 1, 2000